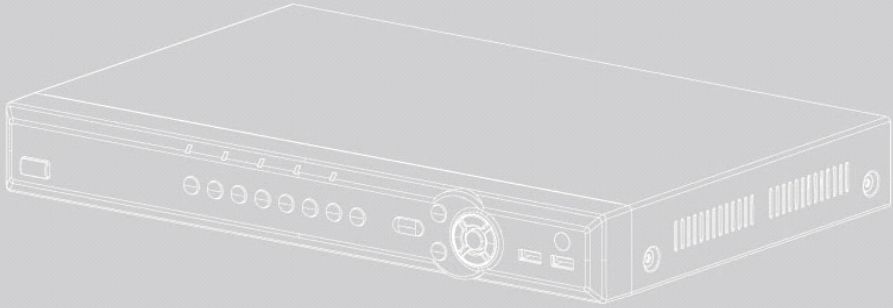
4/8-CH Embedded Digital Video Recorder

H.264 DVR

V0.1B_A_E



USER MANUAL

Notes....3
Chapter 1 Overview....3
1.1 Introduction....3
1.2 Packaging and accessories....3
1.3 Main features....4
1.4 Technical parameters....4
1.5 Product appearance and interface definition....5
1.5.1 Front panel....5
1.5.2 Back panel....6
1.6 Remote controller....6
1.7 Mouse....8
Chapter 2 Quick installation....9
2.1 HDD Installation....9
2.2 Boot....9
2.3 System login....9
2.4 Shortcut menu....10
2.4.1 Main menu....10
2.4.2 Lock....10
2.4.3 Channel switching....10
2.4.4 Video search....10
2.4.5 PTZ Control....10
2.4.6 MUTE....11
2.4.7 Manual recording/stop recording....11
Chapter 3 Advanced settings....11
3.1 Main menu....11
3.2 Recording mode....11
3.3 Video search....12
3.4 Backup....14
3.5 Harddisk management....14
3.6 Basic setup....15
3.6.1 System language....15
3.6.2 Time setup....16
3.6.3 User password....16
3.6.4 CAMERAS....17

3.6.5 VIDEO/AUDIO 18
3.7 Advanced 18
3.7.1 Alarm 18
3.7.2 System info 20
3.7.3 Motion detection 20
3.7.4 Mobile phone monitoring 22
3.7.5 System maintenance 22
3.7.6 PTZ 23
3.7.7 Network setup 23
3.8 Domain name application 25
3.9 Port forwarding 29
Chapter 4 DVR network 31
4.1 Functional characteristics 31
4.2 Installation and download of controls 31
4.3 IE log-in 32
4.4 Real-time preview 32
4.5 Record playback 33
4.6 Recording mode 33
4.7 Alarm setup 34
4.8 PTZ control 34
4.9 Network setup 34
4.10 System setup 35
4.11 Host info 35
Chapter 5 Client software & Player 36
5.1 Client software 36
5.2 Video Player 36
Appendix 1. Q&A 40
Appendix 2. harddisk space occupation calculation 42
Appendix 3. System connection diagram 43

Notes

- The power supply of this DVR is provided through DC12V3A adapter, please check the power outlet before installation and ensure it can meet the requirements of adaptor;
- Do not place the DVR at a place subject to rain or moisture;
- Do not install the DVR at a place subject to violent vibration;
- Do not install the DVR at a place subject to direct sunlight, and be far away from heat and high temperature environment;
- The DVR's back panel shall be 15cm or more away from other objects or wall, to facilitate fan cooling;
- The DVR shall work under temperature, humidity and voltage according to its technical specifications;
- The space where DVR installed shall not be stored with corrosive chemicals that may produce volatile gases, to avoid to affect the DVR's life;
- **The** DVR shall be installed in a space without much dust, and the environment should be kept clean and tidy;
- Proper grounding shall be installed during operation;
- DVR should be installed to ensure the proper connectivity with other devices.

Please buy harddisk from official channel to meet DVR's long time and much data reading and writing requirements.

Chapter 1 Overview

1.1 Introduction

This product is a consumer-oriented 4/8-channels CIF/Half-D1/D1 real-time network DVR,and adopt the industry's most advanced SOC technology and standard H.264 encoding method, so that the image quality is higher, network transmission effect is better and system is more stable; the body is made under stylish appearance design and sophisticated manufacturing process, the 1U standard chassis is suitable for small-scale monitoring places such as shop, supermarket, residential, school, hotel, Internet cafe, family and other civilian sites where require more on video quality, network transmission and real-time playback.

1.2 Packaging and accessories

Following parts are included in the package:

◎ One IR remote controller
◎ A pair of remote controller batteries
◎ One piece of product certificate
◎ One piece of product instruction
◎ One piece of SATA harddisk data cable(installed in the host)
◎ One DC12V3A power adapter
◎ Support HDD(already installed) and a set of mounting screws.

◎ One piece of HDD power cable (already installed in the host)
◎ One piece of CD.

1.3 Main features

◎ Standard H.264 video compression format
◎ 16-bit true-color semi-transparent graphical menu interface, menu options tip
◎ A variety of recording modes: manual, timing, movement and alarm recording
◎ Optimized four-channel simultaneous playback (single playback for eight-channel ones)
◎ A variety of backup (U disk, mobile harddisk, network)
◎ One USB2.0 for data backup, one USB1.1 for the mouse operation
◎ Multi-functional operation, recording, playback, monitor, backup and network transmission can be realized at the same time
◎ Dual stream technology
◎ Support network to implement multi-screen real-time browsing, parameter setting, copy or playback
◎ Support mobile phone monitoring
◎ Support event classification and precise time search and playback
◎ Defaulted parameter value fast recovery
◎ Flexible USB interface for mouse

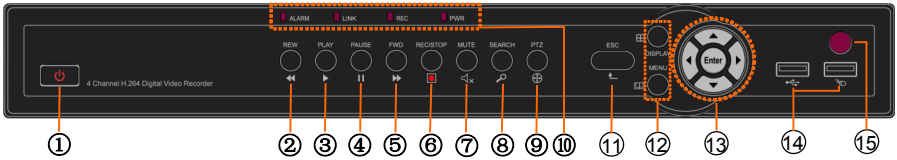
1.4 Technical parameters

Main specifications features	Specific description
Operating system	LINUX OS
Video compression format	Main profile H.264
Video input	4/8 channels BNC
Video output	1 channel BNC
Audio input	4/8 channels RCA
Audio output	1 channel RCA
Display	1/4/9-channel
Multiplex operation	Live display, recording, network transmission, recording, backup,mobile phone surveillance simultaneously
Display resolution	PAL:D1(704*576),NTSC:D1（704*480）
Recording mode	Timer/manual/motion detection/alarm
Recording frame rate	PAL：25fps NTSC：30fps
Recording quality	High,normal,low
Recording resolution	CIF/Half-D1/D1
Recording playback	1/4/8 channel playback simultaneously (Optional playback channel) Support remote file playback， rapid play by times (Fast Backward)、Play by frame etc.
Recording backup	Support USB disk backup, moved hard disk backup, network backup, backup by files,backup by time
Network transmission	4/8 channels real-time network transmission with CIF resolution

Recording diaplay	Special player,support AVI file format conversion
JPEG capture function	Support,3M Pixels@10fps
Email alarm	Send pictures to the designated Email
PTZ	Support
PTZ protocol	PELCO-D,PELCO-P
HDD	Support 1 SATA HDD，capacity to 2T
HDD remain time hint	Support
Network and protocol	1 RJ-45 10/100M via Ethernet，support TCP/IP、DHCP、UPNP、DNS、DDNS、NTP etc.
IE browser	Support
Client software	Support
Dual stream	Support（main and secondary interchange）
Group play	At least support five users online access
Multi-language	Support
Mobile phone surveillance	Support Windows,symbian,iPhone,blackberry,Android operation systems
SDK package	Available
Mouse interface	USB2.0
Backup interface	USB2.0
Remote controller	Support（Support controller ID matching）
User authority	Support multi-level user authority distribution
Time/date format	Support (adjustable)
Power	DC12V/3A
Working temperature	0℃-50℃
Working humidity	10%－90%

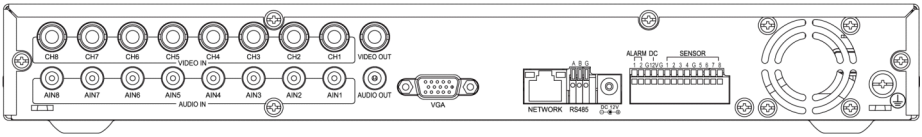
1.5 Product appearance and interface definition

1.5.1 Front panel



No.	Definition	No.	Definition	No.	Definition
1	Power switch	7	Mute	9	PTZ control
2	Rewind	8	Video search	11	Exit/Return
3	Play	10	ALARM:Alarm indicator	12	DISPLAY:Display mode MENU:Main menu
4	Pause		LINK:Network connection indicator	13	up, down, left , right and Confirm
5	Foward		REC:Video recording indicator	14	USB PORT: Used for connecting USB to backup, upgrade and mouse
6	Manual start/stop recording		PWR:Power LED	15	Remote control infrared receiver

1.5.2 Back panel



No.	Physical interface	Interface description
1	1~4/8CH Video in	Connect analog video(camera) signal input, standard BNC connector(4 channel has 4 BNC connector)
2	Video out	CVBS output and connect the monitor
3	1~4/8CH Audio in	Connect active audio signals, such as pickup
4	Audio out	Connect the audio output
5	VGA	Connect VGA monitor, such as computer monitor
6	NETWORK	Connect the Ethernet
7	RS485	Connect the RS485 interfaces in equipments like PTZ
8	DC12V	Power interface：DC 12V/3A
9	ALARM	Connect alarm switch output
10	SENSOR 1～8	Connect alarm switch input, 4-channel equipment 4-alarm inputs, 8-channel equipment 8-alarm inputs
11	⏚	Grounding:To eliminate electrostatic from body

1.6 Remote controller

For reference only, the real product shall prevail.

Key	Functional definition
	Spare keys
	Spare keys
0~9	Channel selection; number keys
PTZ	PTZ Control
	Single and multi-split screen
	Quit shortcut menu
	Shortcut menu
▲▼◀▶	Direction buttons: Next, on the left and right
	OK
ESC	Exit / Return
MENU	Enter the main menu
STARTREC	Start recording (please refer to 2.4.6 for the method)
STOPREC	Stop recording (please refer to 2.4.6 for the method)
	Video Search
	Stop playing
	Fast backward
	Fast forward
	Frame movement
F1, F2	Spare key

1.7 Mouse

This equipment supports USB1.1 mouse, so the user can operate with mouse (mouse operation is as same as WINDOWS operating setting) to realize menu functions. It is just ok to insert the mouse with USB interface to the mouse interface in this equipment.

Mouse action	Function
Right button	Enter system main menu: real-time screen preview, single mouse left click
Double mouse left click	Single left click the functional menu icon, and enter menu setting page
	The image in a channel can be enlarged by double click real-time monitoring and playback screen, it can be recovered into monitoring and multi-split image after double click again
Click the left mouse button	Access to volume adjustment, color adjustment and PTZ control menu. The volume adjustment, color adjustment and PTZ control can set only one channel, please select corresponding screen if multi-screen mode is on prior to setting. If you single click mouse button in volume adjustment and PTZ control: PTZ control is available if clicking direction or "+ and -" icon; There is a volume bar in volume control interface. Move mouse to a position and click right button, the corresponding volume will be shown in the right side of the volume bar, click "×" to exit; The operations like color adjustment can be referred to above volume adjustment. If there are many options in the option box, click the left button and drop-down menu will be shown. Fast forward and fast backward function can be realized by left clicking in video playback interface. Click the left button or right button can activate the soft keyboard in input box, clicking right button can switch English and Chinese input state; the number, symbol and English word capitalization can be realized only by clicking. The Chinese spell is also available via the soft keyboard input when Chinese input, its input method is as same as remote control; left button can be used for turning page.
Mouse movement	Click left button and move can adjust the parameters in volume adjustment and color adjustment interface, there is corresponding parameter display in right side when movement. Click left button and move the motion box can set the dynamic detection zone in motion detection zone.

Chapter 2 Quick installation

2.1 HDD Installation

Harddisk installation must be carried out by technicians to avoid damage to the equipment and harddisk. The DVR mainframe must be powered off before operation. This equipment supports harddisk with SATA harddisk interface. Seagate brand harddisk is recommended.

Installation procedures are as follows:

A. Open the equipment and a harddisk support can be seen.

B. Connect the harddisk data and power cable well

C. Put the harddisk into support, and align the harddisk's screw hole with the support.

D.Fix the harddisk on the support with screw, and cover the DVR.

Note: the newly fixed harddisk can be served for video recording after formatted on the mainframe.

2.2 Boot

Connect the DC12V3A power adapter to the power cord socket in back panel, and press the power button in front panel, the recorder will be on, power indicator "POWER" is on, the monitor will display 4/8-channel monitoring image. If non-formatted harddisk exists in the equipment, harddisk formatting information will be shown. If boot-record mode is on, or boot time is in the setting time, the system will start automatic recording function, the "REC" indicator will be on to indicate the system is working normally.

Note:

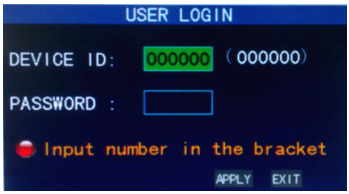
1.If harddisk is failed to be installed when DVR mainframe is power on, or the newly installed harddisk is failed to be formatted on the mainframe, the red "H" logo will be shown in video pre-view picture.

2.The newly installed harddisk must not be used until formatted in the equipment as follows: Main Menu → HDD → HDD Formart . The system will be restarted after completion of formatting.

2.3 System login

The DVR initial code is 000000 without any password, the user can log in main menu directly. For better safety of equipment operation, the administrator can enter system "Basic Settings" – "User Password" to change the code and password of this equipment. You can set ordinary user password and administrator password, the administrator has all the operating privileges, ordinary users only have limited choices, and they can only monitor and video search/ playback. (the mainframe will match automatically when you enter password, and different permissions will be given according to different passwords).

If you want to operate in mainframe menu after password is set, the system will display "user login" interface:



Equipment code: it is just ok to enter equipment code “000000” displayed on right side in corresponding input box. The defaulted code will be guided to the number box when mouse operation; we recommend to set mainframe password when remote controller is operating many equipments, to divide through targeted equipment code input, or the remote controller will disturb the adjacent mainframe.

2.4 Shortcut menu

Click right button in the interface after system startup, quick operations are available to DVR system in the pop-up menu, it can set or control parameters including main menu, lock, video search, PTZ control and video recording.

2.4.1 Main menu

Click "Main Menu" to enter the main menu interface, please see 3.1.

2.4.2 Lock

When the password function is on (please see 2.3), click right button in monitoring interface, and select "Lock" in the pop-up menu, the system interface can be locked immediately, password is required to log in if operation to mainframe menu is needed.

2.4.3 Channel switching

8-channel DVR can choose eight-channel, front four-channel and back four-channel. 4-channel DVR can choose to switch 4-channel and one-channel.

2.4.4 Video search

Please see Chapter 3.

2.4.5 PTZ Control

Click right button in main interface and select “PTZ control”, following interface will pop-up:

PTZ speed (fast or slow) can be controlled in this interface, zoom, focus and aperture is

also controllable.

2.4.6 MUTE

2.4.7 Manual recording/stop recording

If “timing record” is on (please see Chapter 3), and recording is not set in this period, "manual recording" and "timing record" is effective. When boot-record mode is on, this function is not available.

Chapter 3 Advanced settings

3.1 Main menu

The main menu has the “PLAYBACK”, “RECORD”, “HDD”, “BASIC”, “ADVANCED” and “Exit” options, as shown below:

Note: The setup of all the submenus below will not be effective until “Enter” is pressed. The setup of this menu will be invalid if you exit directly. A significant characteristic of this product is when you move the cursor to any option, the prompting message of this option will be displayed automatically in the lower part of the screen.

3.2 Recording mode

Enter the Recording Mode screen from “Main Menu”—“Recor”, as shown below:

CHANNEL CH1 ON CH2 ON CH3 ON CH4 ON
RESOLUTION D1 HD1 CIF
QUALITY BEST FINE NORMAL
AUDIO ENABLE DISABLE
REC. MODE BY TIMER SCHEDULE
FILE LENGTH 60Min
Open recording for this channel
DEFAULT APPLY EXIT

Channel: used to select if the video recording function is enabled for the corresponding recording channel.

RESOLUTION:available in the 3 levels of D1（704*576）, HD1（704*288）and CIF（352*288）(**Note:** This option is available for 4-channel DVRs only, and the resolution of 8-channel DVRs is CIF by default .)

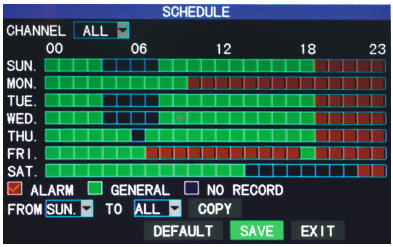
QUALITY: available in the 3 levels of highest, high and normal, corresponding to the 3 data stream standards of highest, high and medium bit rates.

AUDIO: switching on or off audio recording.

REC.MODE: available in the two modes of startup recording and timing recording.

When powered up: starting recording when this unit is energized (It works only if the corresponding channel is enabled in the “Channel” option.)

BY TIME: performing recording as scheduled. When “timing recording” is selected, the “Record Time Configuration” button will appear on the right. Move the cursor here and press “Enter” to enter the Record Time Configuration screen, as shown below:



Channel: You may choose either “All” or a single channel.

Time configuration: First select from the 3 modes of alarm recording, general recording and no recording for your desired recording mode for a certain lattice, and configure specific recording time lattices (each lattice represents 1hr). Each lattice can be configured into different recording modes by marking them into different colors, such as red, green and background color, which represent alarm recording, general recording or no recording within each hour respectively.

FILE LENGTH: Left-click or press “Enter” to select the File length, with the 4 options of 15min, 30min, 45min and 60min.

3.3 Video search

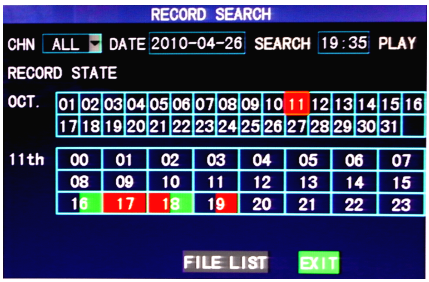
Enter the Video Search screen from “Main Menu” →“Video Search”, as shown below: This unit supports 3 video search modes:

A.Timing playback

Time input: First select the corresponding channel and then adjust the date and time to be searched. Left-click or press “Enter” and the direction keys or enter digits directly for year, month, date, hour and minute adjustment, and then click “Playback” to play back the record of this period of time. For 4-channel DVRs, the 4 channels can be played back simultaneously.

B.Playback based on record state

Enter the year, month and date to be searched in the “Time Input” box and click “Search” to view the record state of this date, as shown below:



Month: displaying the record information of every day in the current month. A green block indicates normal recording, a red block indicates alarm recording, and the background color indicates no recording. Click a date on this bar to search the record information of every hour of that day. The search results will be visualized in the "Day" bar below.

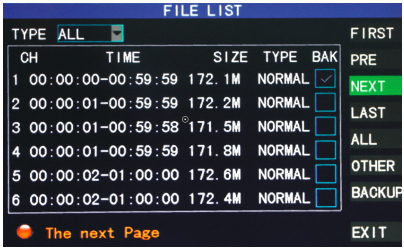
Date: displaying the recording hours of the current day. Each lattice represents 1hr, and one recording segment is 0.5hr. The presentation of the record state is the same as above. Click a 0.5hr segment of a day directly to enter the record playback of this segment.

C.Playback based on file list

Enter the year, month and date to be searched in the "Time Input" box and click "Search" to view the record state of this date. Click a certain day on the "Month" bar and then "Detailed File", and the "Detailed File" screen will pop up, as shown below:

Channel selection: There are 5 options: 1, 2, 3, 4 and all (9 options for 8-channel DVRs). After selection and confirmation, which channel file is displayed can be modified in the following list.

Record type: There are 3 options: all, normal and alarm. After selection and confirmation, the searched message will be displayed automatically as a list, as shown below:



Notes:

① In the "Detailed File" list, by which recording channel is the current record file recorded is displayed at "Channel", the starting and ending times of record packaging at "Record Time", the size (unit: MByte) of this record file at "Size", and the type of this record file at "Type", with the two options of normal and alarm. The operation of outputting data from the selected record to the USB memory can be performed in the "Backup" check box at the bottom right corner of the screen;

② When you have selected a certain record file from the record list by moving the cursor up and down, press "Enter" to enter the playback screen;

③ If "Record Time Superimposition" has already been enabled in the "Basic Setup" screen, the playback screen will display the clock of recording; if "Record Time Superimposition" is set as "Off" in the "Basic Setup" screen, there will be no clock display on the playback screen;

④ During record playback, press "Slow" for slow play, press "Fast Forward" or "Fast Backward" for fast forward or backward play, or press "Pause/Frame" for pause or frame-by-frame play; press "Exit" to exit from the playback screen and return to

the menu of the previous level;

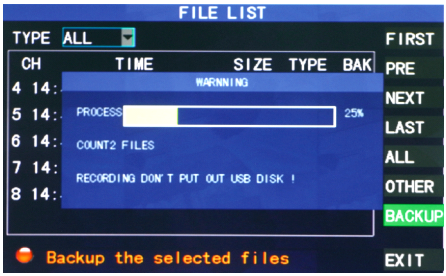
⑤ When the selected record file has been played out, any consecutive record file will be played automatically; if there is no consecutive record file, this unit will return to the detailed file list automatically.

3.4 Backup

Enter the “File List” (see 3.3 Video Search) screen for the backup operation.

The record file may be backed up by a USB storage device. Before the record file is backed up, the user must insert the peripheral storage device into the USB2.0 slot of this unit. This product supports the plug-and-play operation of USB devices.

Move the cursor up and down in the Detailed File List screen to select a certain record file. After “Enter” is pressed in the “Backup” check box, a “√” will appear in this box, indicating that this record file has been selected. The move the cursor to the option box on the right and click “Backup”, when the screen will display the backup progress message of the file, as shown below:



Notes:

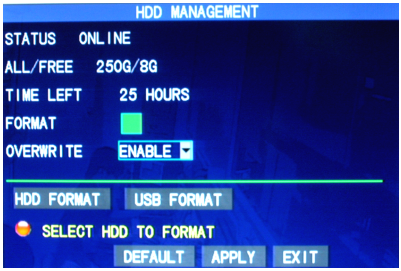
When the available space of the backup device is less than the capacity of the record file, the system will prompt the user with “Not Enough Space”;

After the record file has been backed up, unplug the backup device directly;

See Chapter 4 “DVR Network” for network backup.

3.5 Harddisk management

Enter the Harddisk Management screen from “Main Menu” →“HDD”, as shown below:



STATUS: After the harddisk is connected, the system will detect if the harddisk is correct automatically. If the harddisk needs formatting, “Unformatted” will be displayed

in the harddisk state, when you can click “HDD Format ” to format the harddisk. If the system detects any available harddisk, the harddisk state will be “ONLINE”;

ALL/FREE: referring to the total storage capacity and current remaining storage capacity of the harddisk;

TIME LEFT: referring to the time remaining for recording based on the currently set picture “resolution” and “quality”;

FORMART: Click the check box, a “√” will appear in this box, indicating that this HDD has been selected.

OVERWRITE:ENABLE:The harddisk will overwrite the earliest record when its memory is full; DISABLE: Recording will stop when the memory of the harddisk is full;

HDD FORMART: If the harddisk is used for the first time, it is often necessary to format the harddisk. Click the “Format HDD” button, and then click “Enter” for formatting in the pop-up prompt message dialog box, otherwise click “Cancel”. After clicking “Format HDD”, the system will prompt “You will lose all data by formatting the harddisk. Will you continue?” Then press “Enter”, and the system will prompt “Formatting…” and then “Formatting Successfully”. The system will restart automatically;

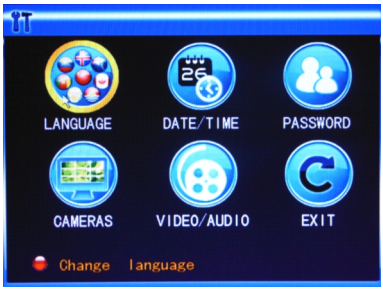
USB FORMART: formatting the data in the U-disk.

The “Default” button is used to restore the factory default values.

Note: In order to connect the harddisk data on the DVR securely, we recommend that the harddisk must be formatted before the first time of recording.

3.6 Basic setup

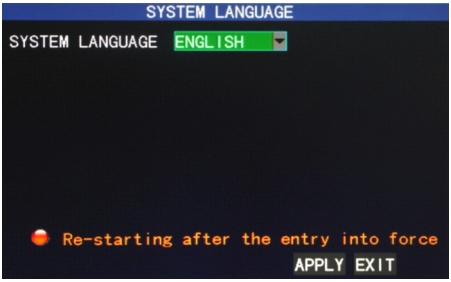
Enter the Basic Setup screen from “Main Menu” →“Basic”, as shown below:



The Basic Setup screen includes the 6 options of System Language, Time Setup, User Password, Display Setup, Video/Audio Setup and Exit.

3.6.1 System language

Move the cursor to the “LANGUAGE” option (the icon is enlarged and highlighted to indicate selection), and press “Enter” to enter the setup screen of this option, as shown below:



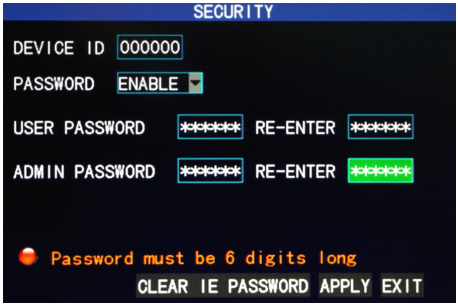
The system has optional multiplex languages ,after choosing the language,click "Apply" button to save, and it will go into effect after system restart.

3.6.2 Time setup

Move the cursor to the “DATE/TIME” option (the icon is surrounded by a yellow frame to indicate selection), and press “Enter” to enter the setup screen of this option, as shown below:

The system time, date format, time format, time zone and summer time can be set up in this screen.

3.6.3 User password



DEVICE ID: Enter digits directly to set up the DVR number;

PASSWORD: Press “Enter” to select “ENABLE” or “DISABLE” the user password. If this option is enabled, the user has to enter his/her password upon logging-in to log in successfully; if it is disabled, the main menu of the system can be logged in directly;

User Password: This option is operated with keys or the mouse. Enter digits directly to set the user password;

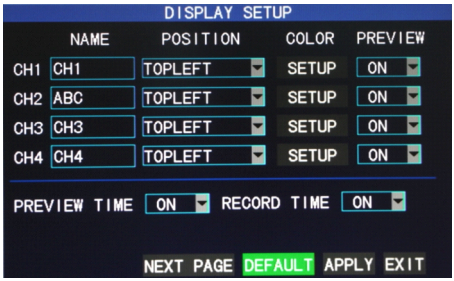
Admin password: This option is operated with keys or the mouse. Enter digits directly to set the administrator password.

Notes:

1) This unit has no initial password. When you're setting up passwords, it is recommended that the two passwords are set up together. If any set password is forgotten, please contact your dealer or the technical department of the manufacturer.
2) Only the locking, channel changeover, video search, log search, backup , PTZ control, mute, manual recording and stopping recording functions are available to normal users.

3.6.4 CAMERAS

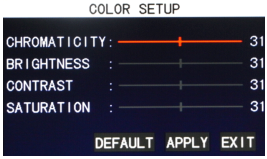
Move the cursor to the "CAMERAS" option (the icon is surrounded by a yellow frame to indicate selection), and press "Enter" to enter the setup screen of this option, as shown below:



Name: Move the cursor to the input box of this option, and press "Enter" to enter the input screen of this option. Numerical, English and Chinese pinyin input methods are supported;

Position: Move the cursor to this option, and press "Enter" to change over between name positions; there are 5 setup options: top left, bottom left, top right, bottom right and off;

Color: Move the cursor to "Setup" of the corresponding channel, and press "Enter" to enter the color setup screen, as shown below:



Press "Enter" or drag the cursor directly to set the picture color, including the 4 options of chromaticity, brightness, contrast and saturation. Press "Enter" to exit and save the set parameters.

Preview:

On: The picture of this channel can be seen in the Video Preview screen;

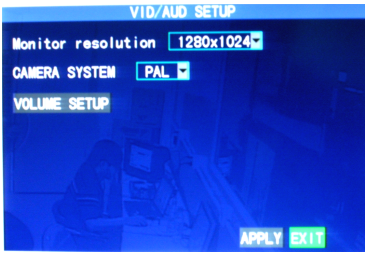
Off: The Video Preview screen of this channel has been shielded, but there is no effect on the recording of this channel;

Preview time: On: The system date and time are displayed right above the Video Preview screen;

Record Time : On: A clock can be displayed in the playback of the current record file.

3.6.5 VIDEO/AUDIO

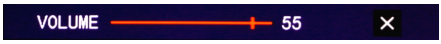
Move the cursor to the “VIDEO/AUDIO” option (the icon is surrounded by a yellow frame to indicate selection), and press “Enter” to enter the setup screen of this option, as shown below:



MONITOR RESOLUTION: Left-click or press “Enter” to set the VGA output resolution, with the 3 options of 1280*1024, 1024*768 and 800*600;

CAMERA SYSTEM: Left-click or press “Enter” to change over between the two camera systems of PAL and NTSC;

Volume setup: Move the cursor to “Volume Setup”, left-click or press “Enter” to enter the Volume Setup screen, and press “Left”, “Right” or drag the cursor with the mouse directly to adjust the volume.



Note: The system will restart when the VGA resolution or the camera resolution is modified.

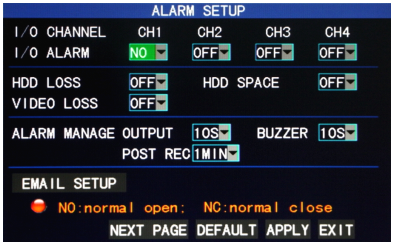
3.7 Advanced

Enter the following screen from “Main Menu” →“Advanced”:

The advanced functions include the 7 options of alarm setup, system information, motion detection, mobile phone monitoring, system maintenance, PTZ Setup and Network Setup.

3.7.1 Alarm

Move the cursor to the “Alarm” option (the icon is surrounded by a yellow frame to indicate selection), and press “Enter” to enter the setup screen of this option, as shown below:


ALARM SETUP
I/O CHANNEL CH1 CH2 CH3 CH4
I/O ALARM NO OFF OFF OFF
HDD LOSS OFF HDD SPACE OFF
VIDEO LOSS OFF
ALARM MANAGE OUTPUT 10S BUZZER 10S
POST REC 1MIN
EMAIL SETUP
NO:normal open; NC:normal close
NEXT PAGE DEFAULT APPLY EXIT

I/O CHANNEL/ALARM: Each channel corresponds to an I/O state alarm, when the alarm input of a channel is valid, the alarm record of the corresponding channel will be started.

Normal On: The external alarm circuit is open at ordinary times, and closed when there is an alarm.

Normal Off: The external alarm circuit is closed at ordinary times, and open when there is an alarm.

Note: When an alarm is produced, a red letter "I" will be displayed above the corresponding channel.

HDD LOSS: On: When the system cannot identify the harddisk, an alarm will be generated, and a red mark "H" will be displayed at the bottom left corner of Channel 1 in the lower part of the Video Preview screen.

HDD SPACE: On: When the remaining space of the harddisk is less than 500M, the lower part of the Video Preview screen will display: "The space of the harddisk is not enough. Please change the disk after shutdown."

VIDEO LOSS: On: When the video of a certain channel is lost, this channel will display in the lower part of the Video Preview screen: "Video Loss".

ALARM MANAGE OUTPUT: the time of the DVR outputting the alarm signal to the outside when an alarm is generated, with the options of 0sec, 10sec, 20sec, 40sec and 60sec

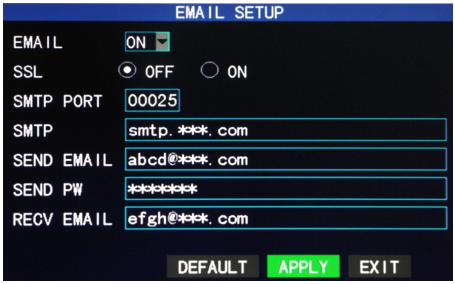
BUZZER: the time of buzzer ringing when an alarm is generated, with the options of 0sec, 10sec, 20sec, 40sec and 60sec

Post Alarm Recording: the time of record delay after the motion detection alarm, with the options of 30sec, 1min, 2min and 5min

Email SETUP: This unit supports motion detection and e-mail alarm.

Email setup Prerequisite: The mainframe must be connected to the WAN. See Chapter 4 "DVR Network" for the connection method.

When motion detection is triggered, the system will extract a picture at the time of triggering and send it to the corresponding mailbox. The size of the extracted picture is about **11K**.



SSL: a secure link transmission protocol, whose "Off" or "On" state is determined by the mailbox server. "Off" is usually chosen.

SMTP PORT: the mailing port of the mailbox server, usually being 25, with the exception of a few mailboxes, such as the mailing port of the GMAIL server whose port number is 465.

SMTP: the server address of the mailbox used, for example, the SMTP server of the Yahoo mailbox is smtp.mail.yahoo.com.cn; please check this address to your mailbox supplier.

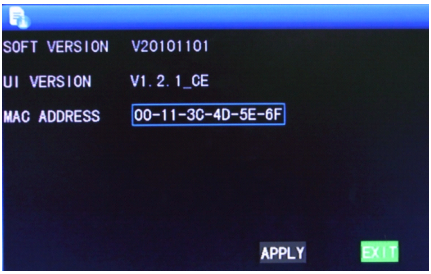
SEND EMAIL: the mailbox address used to send mails, the above-mentioned SMTP server is also the server of the corresponding sender address.

SEND PW: the password of the mailbox used to send mails.

RECV EMAIL: the address used to receive the picture transmitted after the DVR motion detection alarm. If the alarm frequency of the system is high, the number of pictures sent will also be larger. Please pay attention to the space of your mailbox timely lest the normal operation of the mailbox be affected due to an excess number of pictures.

3.7.2 System info

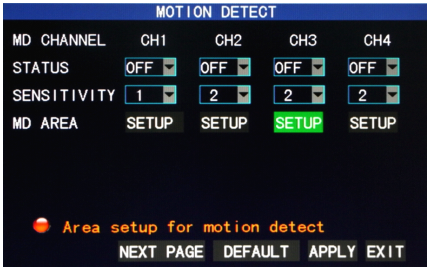
Enter the System Info screen from "Main Menu"→"Advanced Functions", as shown below:



You can inquire about the software version number, whole unit version number, MAC address and serial number in this screen.

3.7.3 Motion detection

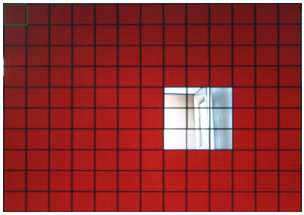
Enter the Motion Detection screen from "Main Menu" →"Advanced ", as shown below:



MD Channel and STATUS: Each channel has a corresponding switch. Press “Enter” to select motion detection “On” or “Off”.

SENSITIVITY: Each channel has a corresponding sensitivity setting, with the 4 levels of 1, 2, 3 and 4, in which 4 is the highest. Press “Enter” for changeover.

MD AREA: Each channel has a corresponding motion detection area setting. Move the cursor to “Setup” of the corresponding channel, and press “Enter” to enter the motion area setup screen of this channel, where a red block indicates motion detection is activated for this area and a transparent block indicates motion detection is not activated, as shown below:



Operating prompt:

Remote controller operation: Use “⊞“ (display mode) to select full screen or blank;

Mouse operation: Left-click the mouse and drag the motion box to set the area of dynamic detection.

Motion detection setup procedures:

A. Turn “On” the corresponding channel in the “Channel Switch” option;
B. Set the sensitivity level as necessary, usually set at 3 or 4;
C. Set the motion area of the corresponding channel in the “Area Setup” option;
D. In the “Recording Mode” screen, set the corresponding channel to “On” in the “Channel” option;
E. In the “Recording Mode” screen, select “Timing Recording” in the “Recording Mode” option, also click “Record Time Configuration” to enter the Record Time Configuration screen and set the corresponding time to alarm recording (see timing recording in “Recording Mode” for the setup method).

After the setup has been done and motion detection triggered, a red letter “M” will appear in the screen of this channel. See “Alarm processing” in Section 3.6.1 for alarm processing.

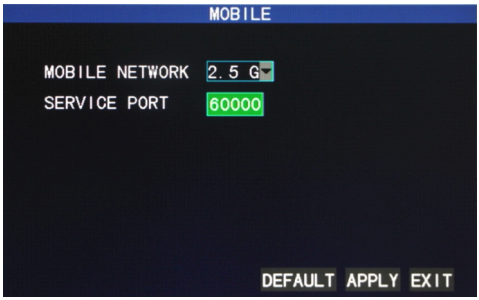
3.7.4 Mobile phone monitoring

The mobile phone monitoring function of this series DVR is supported by mobile phones of the **Windows Mobile and Symbian** operating systems, such as Dopod P660, Nokia N78 and Nokia 95.

The operating procedures are as follows:

Setup method of mobile phone monitoring at the DVR end:

Enter the following screen from “Main Menu” →“Advanced Functions” →“Mobile Phone Monitoring”:



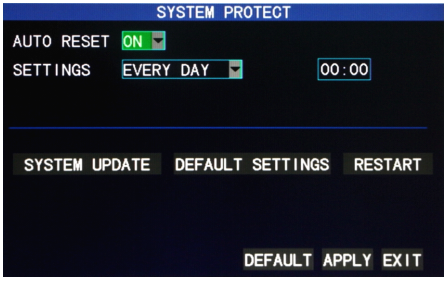
Wireless network: The criteria for selection of wireless network include 3G, 2.5G and 2.75G. Press “Enter” to change over between these 3 criteria. Please make a choice based on your local mobile operator and the network standard supported by your mobile phone.

Service port: with a setting range of 1,024—65,535; this port has to be mapped on the router, and its setup method is the same as the mapping method of the port in network setup.

For more detailed mobile phone installation and user mannual,please refer to the Mobile Phone User Manual in the CD disk

3.7.5 System maintenance

Enter the “Maintain” screen from “Main Menu” →“Advanced”, as shown below:



AUTO RESET: When this option is set to “On”, the user can set the restart frequency and time of this device himself/herself.

System update: Copy the update file to the root directory of the U-disk, then insert the U-disk into the USB slot of this unit, and “Enter” this button for system updating. The screen will display the progress box of system updating until updating is completed.

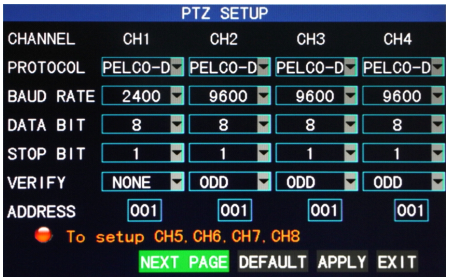
The power system should not be interrupted during updating.

DEFAULT SETTING:Restore the system parameters to the default settings.

RESTART : Restart this unit.

3.7.6 PTZ

Enter the “PTZ” screen from “Main Menu” →“Advanced”, as shown below:


PTZ SETUP
CHANNEL CH1 CH2 CH3 CH4
PROTOCOL PELCO-D PELCO-D PELCO-D PELCO-D
BAUD RATE 2400 9600 9600 9600
DATA BIT 8 8 8 8
STOP BIT 1 1 1 1
VERIFY NONE ODD ODD ODD
ADDRESS 001 001 001 001
To setup CH5. CH6. CH7. CH8
NEXT PAGE DEFAULT APPLY EXIT

Channel: selecting the channel to which the dome camera is connected (to select any of the latter 4 channels, click “Next Page”)

Protocol: selecting the dome protocol of the corresponding brand and model, with two options, Pelco-D by default

Baud rate: selecting the baud rate used by the dome, with the 4 options of 1200, 2400, 4800 and 9600

Data bit: with the options of 5, 6, 7 and 8, 8 by default

Stop bit: with the options of 1 and 2, 1 by default

VERIFY: with the 5 options of None/Odd/Even/Mark/Space, None by default

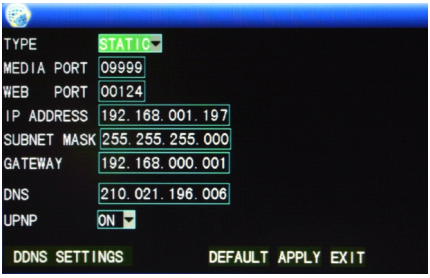
Address : Complete the PTZ code of the corresponding channel.

Just set “protocol”, “baud rate” and “address code” in order to set the PTZ.

See “Shortcut Menu” →“PTZ Control” for PTZ control.

3.7.7 Network setup

Enter the “Network” screen from “Main Menu” →“Advanced”, as shown below:



TYPE: with 3 options: static configuration, DHCP and PPPOE

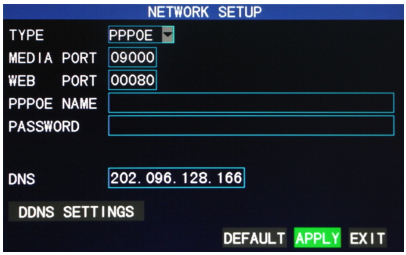
Static : allocating an IP address manually

DHCP: acquiring an IP address automatically

After selecting the DHCP mode, restart the system after confirmation. After starting, the system will establish a connection with the DHCP server automatically. When this is

successful, this unit will be allocated an IP address, which will be displayed on the screen.

PPPOE: broadband dial-up network access, as shown below:



PPPOE user name and password: Fill in the PPPOE user name and password provided by the Internet service provider.

When one ADSL line is connected to one DVR only, you can select Internet connection in the PPPOE mode, when the ADSL modem will connect the DVR directly. Then press “Enter” to select PPPOE in the connection mode to enter the PPPOE Setup screen. After entering the broadband user name and password, click “Enter” and the system will restart. After that, the DVR will establish a network connection in the PPPOE mode automatically. After successful connection, the IP on the IP address will be modified to the acquired dynamic WAN IP address automatically.

Media port: the port number used in the private protocol communication between the DVR and the PC end, usually being 9000 by default. If this port of the PC is occupied by any other service, please modify it to an unused port.

WEB port: the http port, usually being 80 by default. If the administrator modifies the WEB port to any other port, such as 88, you have to postfix the IP with the port number, and enter “http://192.168.1.19:88” in the address bar when accessing the DVR via the IE.

IP address: allocating an IP address depending on the network environment of the DVR

Subnet mask: filling in a subnet mask in depending on the network environment of the DVR

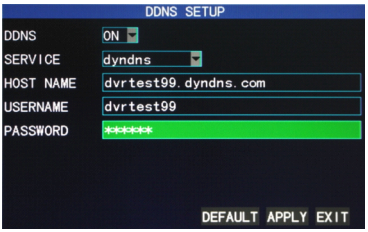
Gateway: Setting the gateway depending on the network environment of the DVR. If there is no router device in the network, please allocate an IP address on the same network segment. If there is a router device in the network, you have to set the corresponding gateway.

DNS: setting the IP address of the domain name server (DNS varies from city to city); you can refer to the domain name server configurations of the PC.

UPNP: When the UPNP function is on(UPNP function on the router end is also on of the router setting), then the DVR will reflect the port and IP into the router automatically.

DDNS Setup

Click “DDNS Setup” to enter the following screen:



DDNS (domain name resolution): with the two options of “ON” and “OFF”; when a domain name resolution server is available, please select DDNS "ON";

SERVICE: The user may select his/her desired DDNS server himself/herself, with the 3 options of 3322, dyndns and perfecteyes;

Host name: Enter the host name registered on the dynamic domain name resolution server;

User name: Enter the user name registered on the dynamic domain name resolution server;

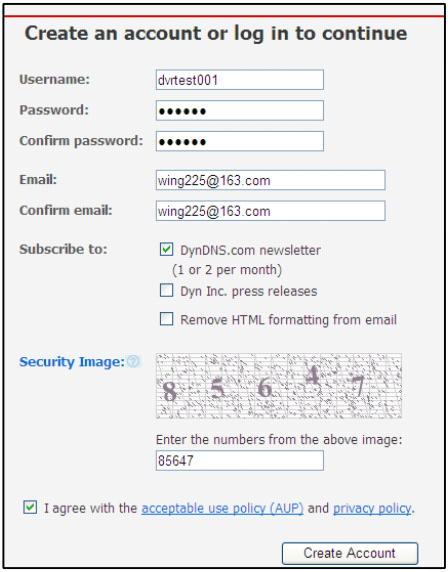
Password: Enter the password registered on the dynamic domain name resolution server.

3.8 Domain name application

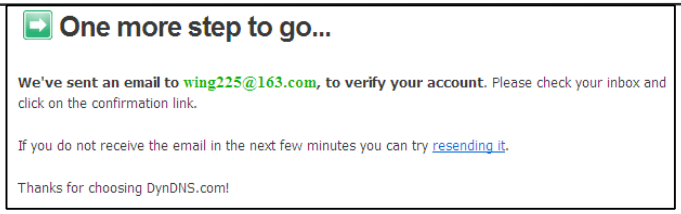
1) Create account

First open www.dyndns.com, and click the Create Account option:

Fill in the account information.

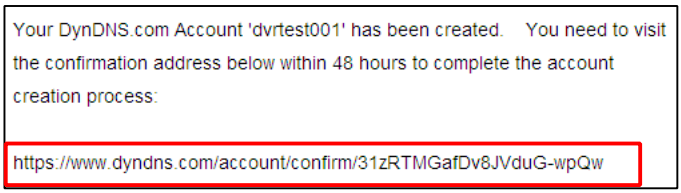


After confirmation, the system will prompt that the verification message has been sent to the designated mailbox, as shown below:


One more step to go...
We've sent an email to wing225@163.com, to verify your account. Please check your inbox and click on the confirmation link.
If you do not receive the email in the next few minutes you can try resending it.
Thanks for choosing DynDNS.com!

2) Activate account

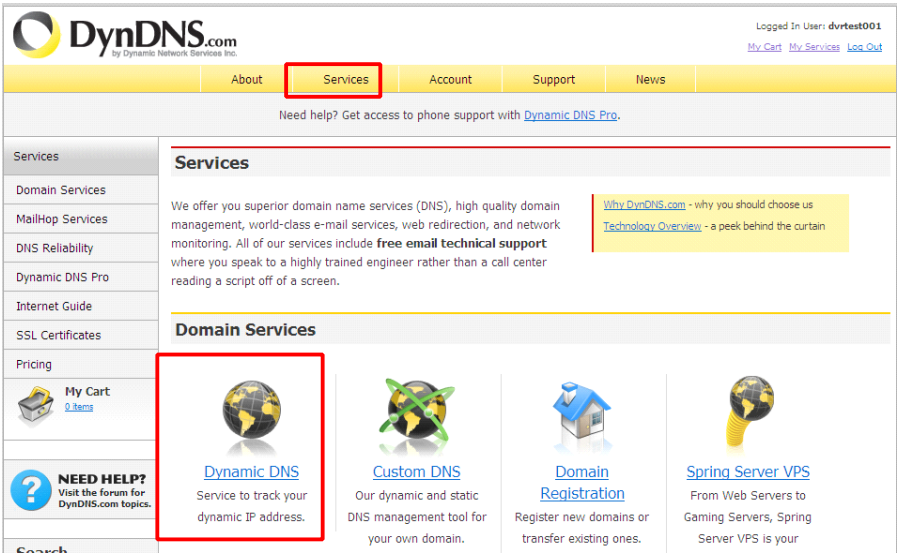
Log in your mailbox and open the confirmation link sent from support@dyndns.com, as shown below:


Your DynDNS.com Account 'dvrtest001' has been created. You need to visit the confirmation address below within 48 hours to complete the account creation process:
https://www.dyndns.com/account/confirm/31zRTMGafDv8JVduG-wpQw

Click the link below and enter the website to activate the account.

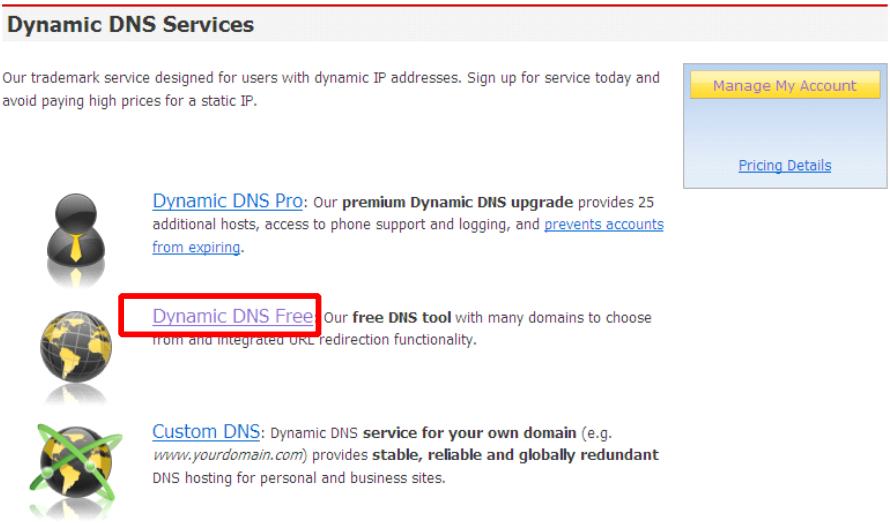
3) Login

After successful activation, open the home page http://www.dyndns.com/ to log in. After successful login, click “Services” →“Dynamic DNS”, as shown below:

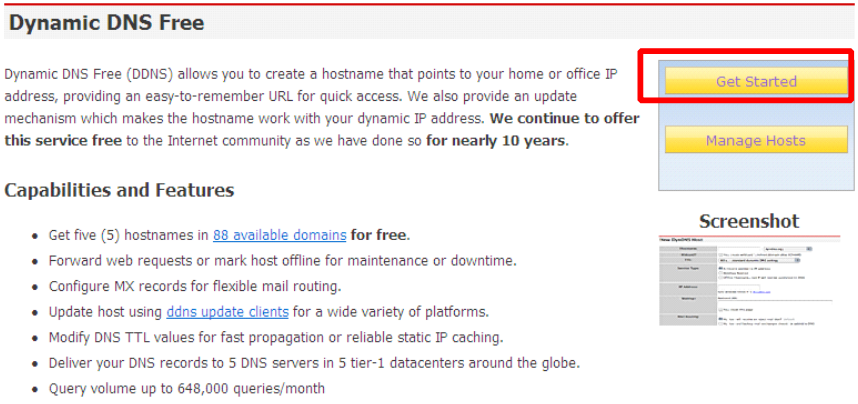

DynDNS.com
Logged In User: dvrtest001
My Cart My Services Log Out
About Services Account Support News
Need help? Get access to phone support with Dynamic DNS Pro.
Services
Domain Services
MailHop Services
DNS Reliability
Dynamic DNS Pro
Internet Guide
SSL Certificates
Pricing
My Cart
0 items
NEED HELP?
Visit the forum for DynDNS.com topics.
Services
We offer you superior domain name services (DNS), high quality domain management, world-class e-mail services, web redirection, and network monitoring. All of our services include free email technical support where you speak to a highly trained engineer rather than a call center reading a script off of a screen.
Why DynDNS.com - why you should choose us
Technology Overview - a peek behind the curtain
Domain Services
Dynamic DNS
Service to track your dynamic IP address.
Custom DNS
Our dynamic and static DNS management tool for your own domain.
Domain Registration
Register new domains or transfer existing ones.
Spring Server VPS
From Web Servers to Gaming Servers, Spring Server VPS is your

4) Application for free domain name

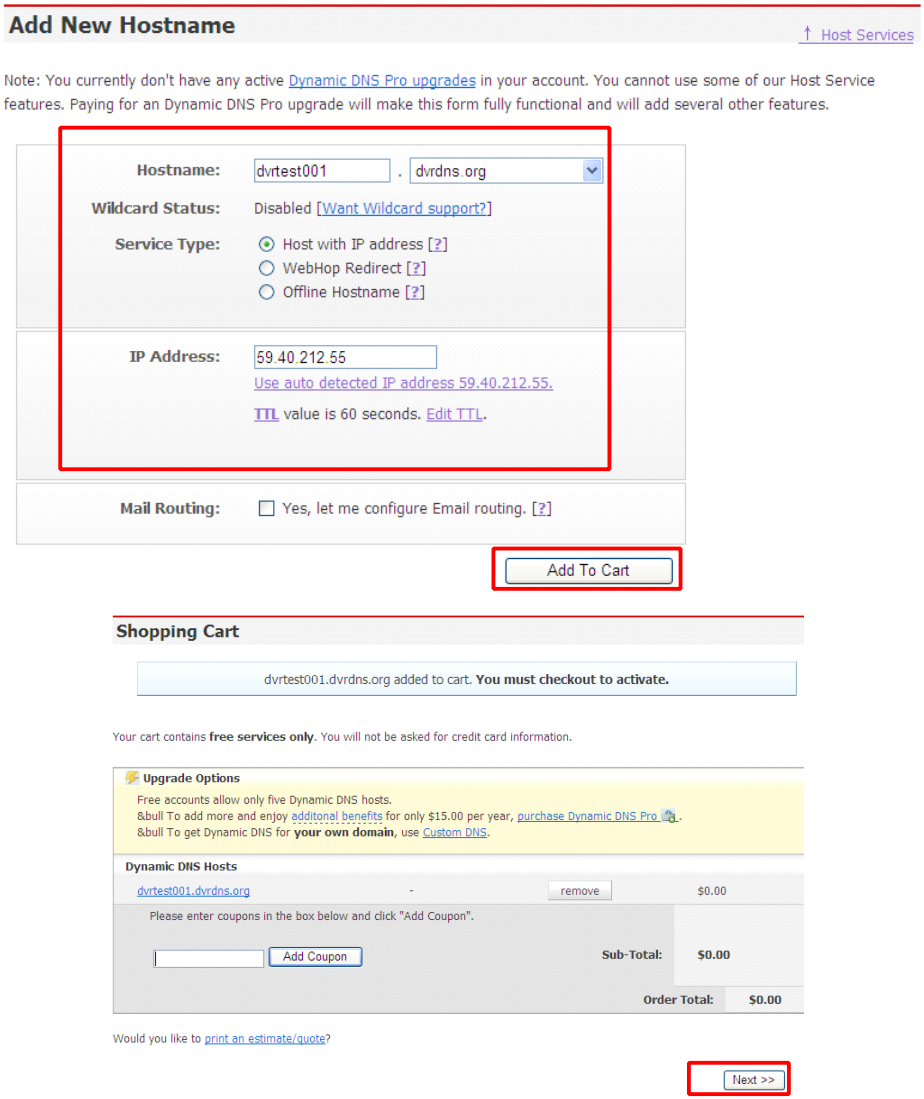
After entering the “Dynamic DNS Services” screen, click “Dynamic DNS Free” to apply for a free dynamic domain name, as shown below:

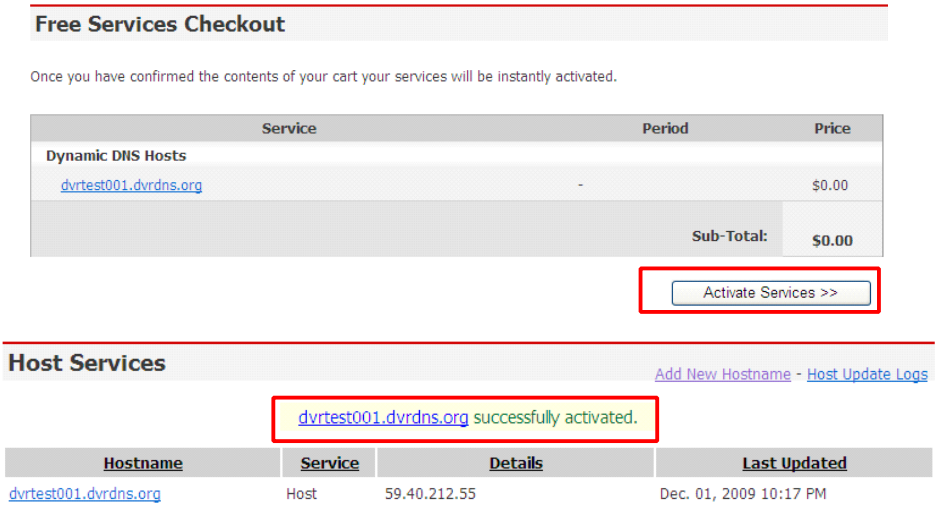

Dynamic DNS Services
Our trademark service designed for users with dynamic IP addresses. Sign up for service today and avoid paying high prices for a static IP.
Manage My Account
Pricing Details
Dynamic DNS Pro: Our premium Dynamic DNS upgrade provides 25 additional hosts, access to phone support and logging, and prevents accounts from expiring.
Dynamic DNS Free: Our free DNS tool with many domains to choose from and integrated URL redirection functionality.
Custom DNS: Dynamic DNS service for your own domain (e.g. www.yourdomain.com) provides stable, reliable and globally redundant DNS hosting for personal and business sites.

Enter the “Dynamic DNS Free” screen, as shown below. Click “Get Started”.


Dynamic DNS Free
Dynamic DNS Free (DDNS) allows you to create a hostname that points to your home or office IP address, providing an easy-to-remember URL for quick access. We also provide an update mechanism which makes the hostname work with your dynamic IP address. We continue to offer this service free to the Internet community as we have done so for nearly 10 years.
Get Started
Manage Hosts
Capabilities and Features
Get five (5) hostnames in 88 available domains for free.
Forward web requests or mark host offline for maintenance or downtime.
Configure MX records for flexible mail routing.
Update host using ddns update clients for a wide variety of platforms.
Modify DNS TTL values for fast propagation or reliable static IP caching.
Deliver your DNS records to 5 DNS servers in 5 tier-1 datacenters around the globe.
Query volume up to 648,000 queries/month
Screenshot

Enter the hostname, select the service type and then enter the dynamic IP address (usually being the dynamic IP address of the network of the DVR host) to be tied in the Add New Hostname screen, as shown below. Complete the application for the dynamic domain name as prompted.


Add New Hostname
Host Services
Note: You currently don't have any active Dynamic DNS Pro upgrades in your account. You cannot use some of our Host Service features. Paying for an Dynamic DNS Pro upgrade will make this form fully functional and will add several other features.
Hostname:
dvrtest001
dvrdns.org
Wildcard Status:
Disabled [Want Wildcard support?]
Service Type:
Host with IP address [?]
WebHop Redirect [?]
Offline Hostname [?]
IP Address:
59.40.212.55
Use auto detected IP address 59.40.212.55.
TTL value is 60 seconds. Edit TTL.
Mail Routing:
Yes, let me configure Email routing. [?]
Add To Cart
Shopping Cart
dvrtest001.dvrdns.org added to cart. You must checkout to activate.
Your cart contains free services only. You will not be asked for credit card information.
Upgrade Options
Free accounts allow only five Dynamic DNS hosts.
&bull To add more and enjoy additonal benefits for only $15.00 per year, purchase Dynamic DNS Pro.
&bull To get Dynamic DNS for your own domain, use Custom DNS.
Dynamic DNS Hosts
dvrtest001.dvrdns.org
remove
$0.00
Please enter coupons in the box below and click "Add Coupon".
Add Coupon
Sub-Total:
$0.00
Order Total:
$0.00
Would you like to print an estimate/quote?
Next >>

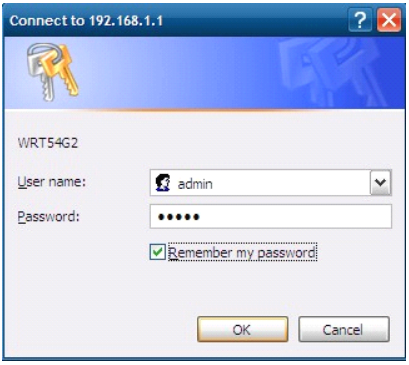


3.9 Port forwarding

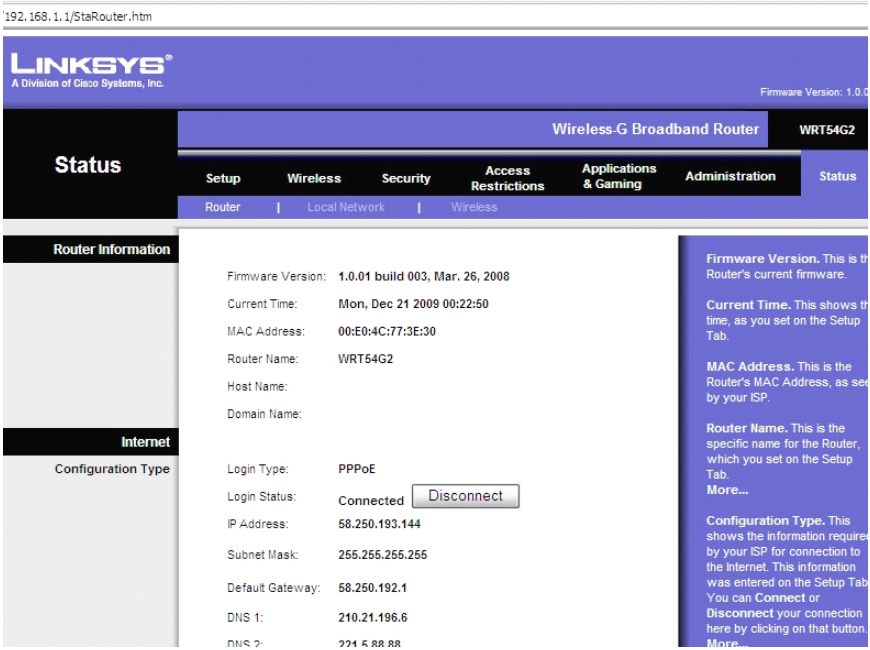
Port forwarding procedures:

1) Set the host IP address. See the relevant section.
2) Log in the router.

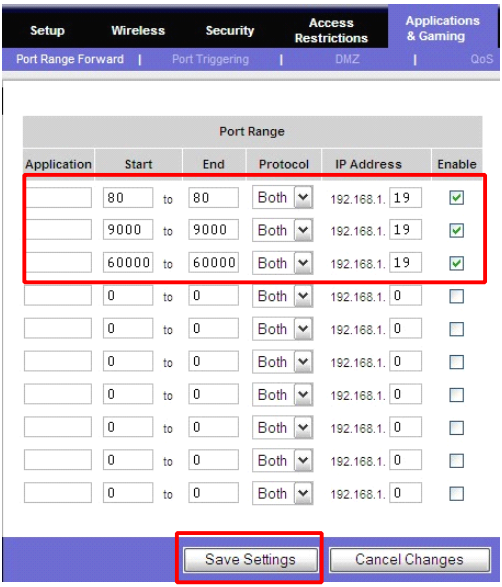
If the IP address of the router is 192.168.1.1. After this IP has been entered in the IE address bar, a login prompt box will appear, as shown below:



Click “Enter” to enter the main screen of the router, as shown below:


192.168.1.1/StaRouter.htm
LINKSYS
A Division of Cisco Systems, Inc.
Firmware Version: 1.0.0
Wireless-G Broadband Router
WRT54G2
Status
Setup
Wireless
Security
Access Restrictions
Applications & Gaming
Administration
Status
Router | Local Network | Wireless
Router Information
Firmware Version: 1.0.01 build 003, Mar. 26, 2008
Current Time: Mon, Dec 21 2009 00:22:50
MAC Address: 00:E0:4C:77:3E:30
Router Name: WRT54G2
Host Name:
Domain Name:
Internet
Configuration Type
Login Type: PPPoE
Login Status: Connected Disconnect
IP Address: 58.250.193.144
Subnet Mask: 255.255.255.255
Default Gateway: 58.250.192.1
DNS 1: 210.21.196.6
Firmware Version. This is th Router's current firmware.
Current Time. This shows th time, as you set on the Setup Tab.
MAC Address. This is the Router's MAC Address, as see by your ISP.
Router Name. This is the specific name for the Router, which you set on the Setup Tab.
More...
Configuration Type. This shows the information require by your ISP for connection to the Internet. This information was entered on the Setup Tab You can Connect or Disconnect your connection here by clicking on that button.

Click “Applications& Gaming ”, as shown below:



As shown above, fill in the IP and the port number in the corresponding files, and select “Both” in [Protocol]. The tick below [Enable] denotes “selected”. After setup, click “Save Setting” to save the settings.

80 stands for the WEB port, 9000 for the media port and 6000 for the mobile phone port. All these ports can be modified in the menu.

Chapter 4 DVR network

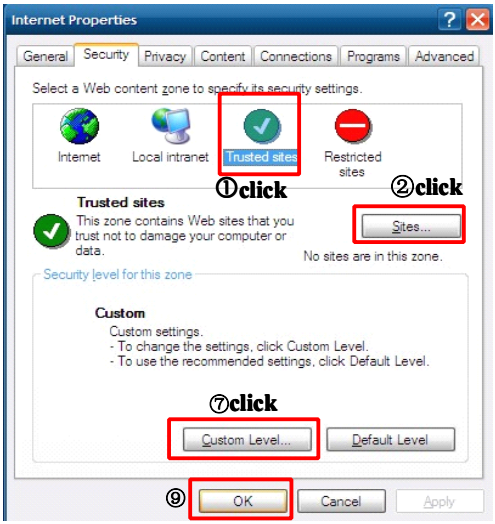
4.1 Functional characteristics

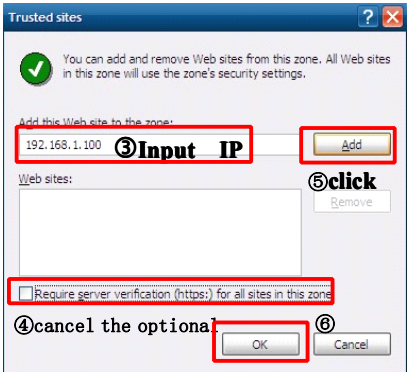
In network operations, software installation is realized by the IE browser of the operating system itself, which is simple and convenient. The DVR supports LAN and WAN access, as well as IP and domain name access.

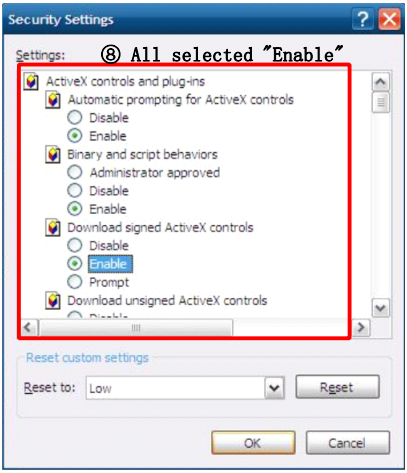
4.2 Installation and download of controls

Automatic installation of plug-ins unit:

First add the IP address of the DVR as a reliable site of the system. For example, if the IP address of the DVR is 192.168.1.100, first open IE Attributes→Internet Options →Security Options for an ordinary XP system, as shown below. This can be set in 9 steps.







Notice: Enter the IP or Domain Name in the third step without the need to enter port number

After setup, enter the IP address in the IE address bar, and complete the automatic installation of the plug-in unit as prompted.

4.3 IE log-in

Log in the system after the plug-in unit has been installed. For example, if the domain name of the DVR dvrtest05.eicp.net and its port is 80, enter the domain name in the IE address bar, as shown below, enter the user name and the password, select “LAN” or “INTERNET” depending on the network environment, and click “Login” to log in the client end or access the DVR end remotely.

Note: If the DVR host is in an LAN, but you have chosen the “WAN” option, the effect of the preview image will be non-real-time.

4.4 Real-time preview

After logging in the client end successfully, enter the real-time preview screen directly and perform video connection automatically, as shown below:

Play control:

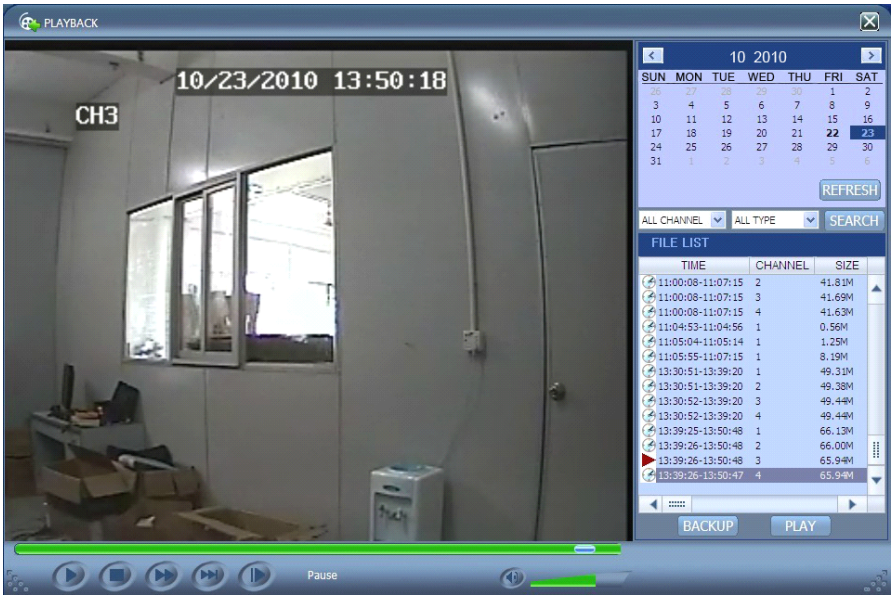
: opening or closing the image; : capture; : remote recording (see “System Setup” for the saving directory)

1 4 9 16: dividing the screen into 1, 4, 9 and 16 parts respectively;

PTZ control: controlling the upward, downward, leftward and rightward motion of the PTZ remotely, and also the zooming, focusing and aperture of the lens

4.5 Record playback

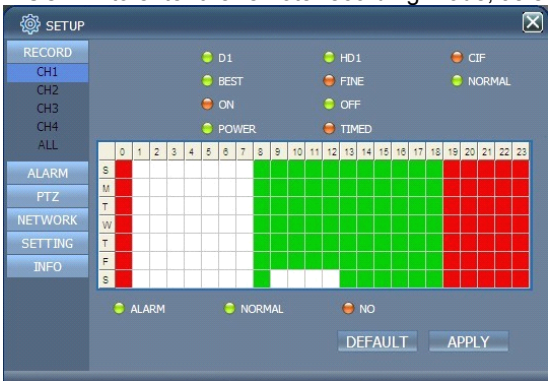
Click "PLAYBACK"to enter the Record Playback screen, as shown below:



First select the date of the record to be played and the channel and record types, and then click “Search”. The eligible record files will appear in the file list, with the bold numbers denoting dates with record data, as shown in the figure above. Select the file to be played back, and double-click this file or click “Playback” to play it. A control bar will appear at the bottom of the picture for pause, stop, fast forward, slow play and next frame control. Click “Backup”. This file will be saved in the designated directory directly (see Figure 4.10 for the saving directory).

4.6 Recording mode

Click “Setup” →“RECORD” to enter the remote recording mode, as shown below:



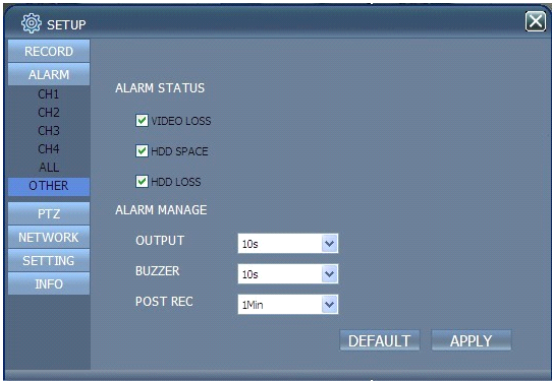
The setup method is the same as the mainframe menu. See “Recording Mode” in

Chapter 3 for details.

Note: “Detail” can be set in 4-channel DVRs only.

4.7 Alarm setup

Click “Setup” →“Alarm ” to enter the Alarm Setup screen, as shown below:



The setup method is the same as the mainframe menu. See “Alarm Setup” in Chapter 3 for details.

4.8 PTZ control

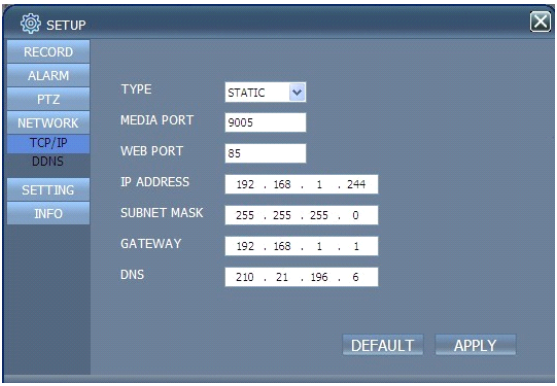
Click “Setup” →“PTZ ” to enter the PTZ Control mode. See Figure 5-6:

See Chapter 3 “Network Setup” in this manual for the setup method.

4.9 Network setup

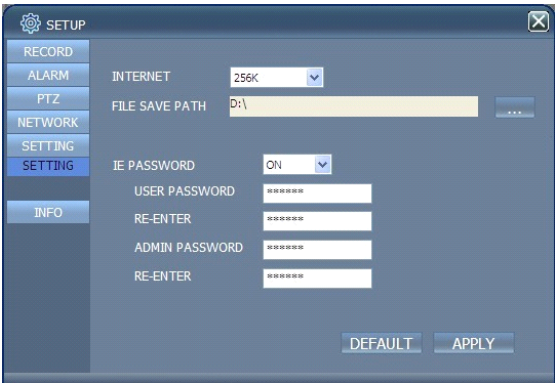
Click “Setup” →“Network Setup” to enter the Network Setup mode, as shown below:

See Chapter 3 “Network Setup” in this manual for the setup method.



4.10 System setup

Click “Setup” →“Setting” to enter the Setting screen, as shown below:



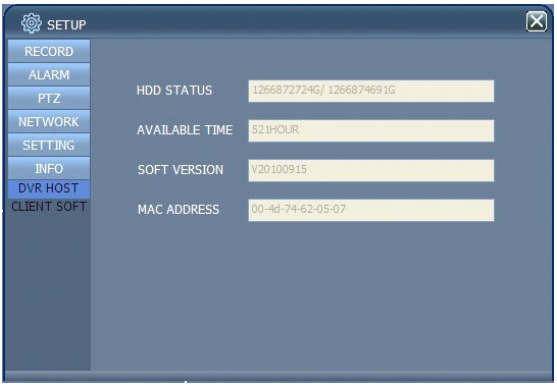
INTERNET: setting the code stream; the higher the code stream is, the clearer the remote image will be, but the network bandwidth must be high, otherwise the image may have a delay.

File SAVE PATH: setting the record saving directory during remote recording and remote backup

IE password: setting the IE login password (Note: This password may be cleared in the main menu of the DVR.)

4.11 Host info

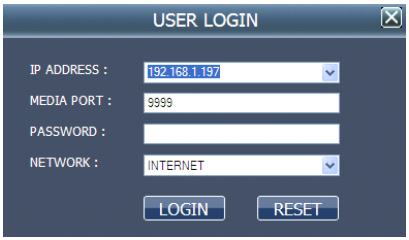
Click “DVR HOST” to enter the Host Info screen, as shown below. View the operating state of the harddisk, the time remaining and the software version and MAC address of this system.



Chapter 5 Client software & Player

5.1 Client software

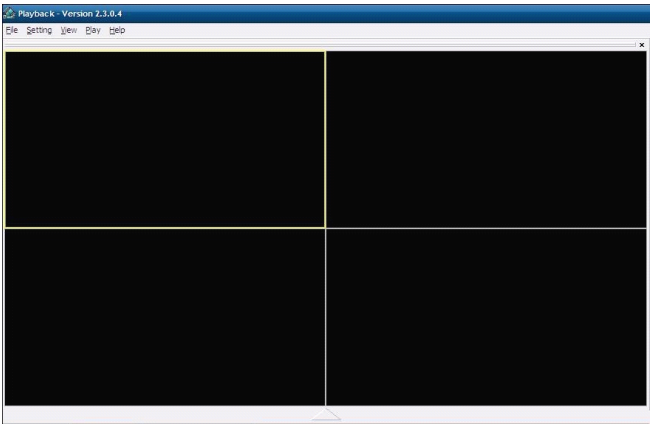
Open the Client software file " NetDvr.msi Windows Installe... 5,486 KB setup.exe Setup ,operate one of these two files and install it according to the remarks.Operate the program icon on the desktop after the installation. Then a Login interface come out as below:



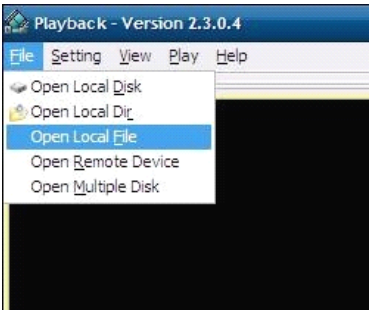
IP ADDRESS：Enter IP address or Domain Name
MEDIA PORT：Enter the port number,the default is 9000
PASSWORD：Enter IE password
NETWORD：Select web styles,LAN is the local area network,INTERNET is the wide area network
Notice:After the successful login,the interface is the same as that of IE.Please refer to the instruction in Chapter 4.

5.2 Video Player

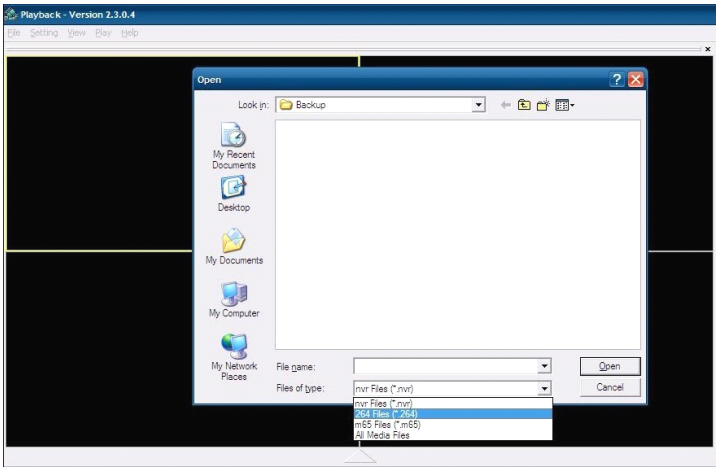
Open the PLAYER installation programme PlaybackSetup.exe in the CD Disk. After the successful installation according to the remarks, operate the programme icon(Playback software) on the desktop.



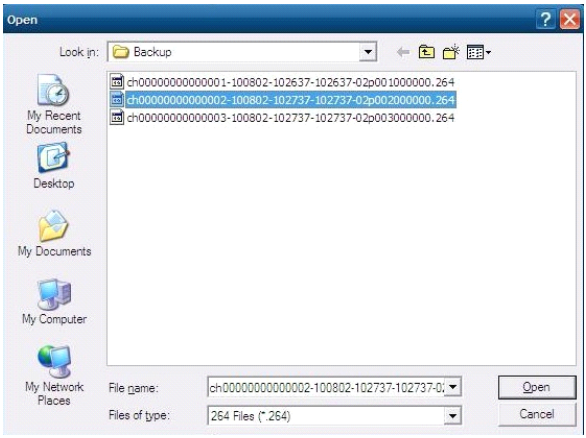
Click “File（F）” as shown in the following image,select 'open the local files（F）'



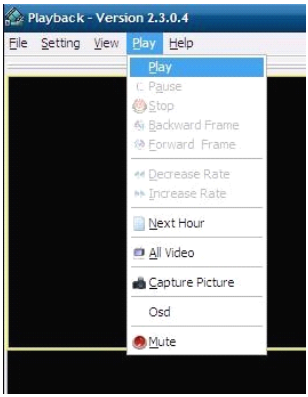
When opening the root of the record file,please select the format as .264,as shown in the following image:



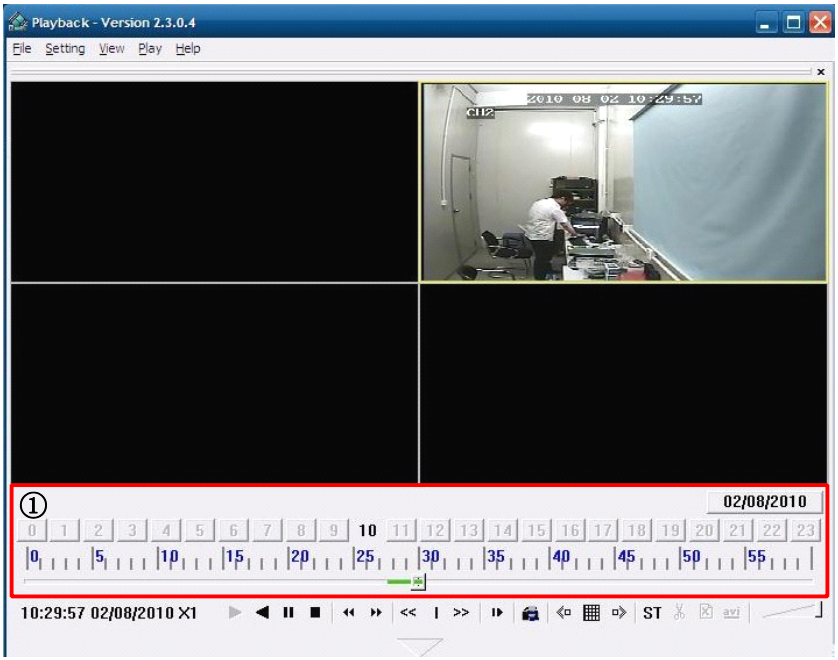
There will be .264 files in the file list,select one of the files to be played.Click 'OPEN' as shown in the following image:



Then click 'PLAY' option as shown in the following image:



After clicking 'PLAY' option,click the button of the player button, to enter the following interface as shown in the following image:



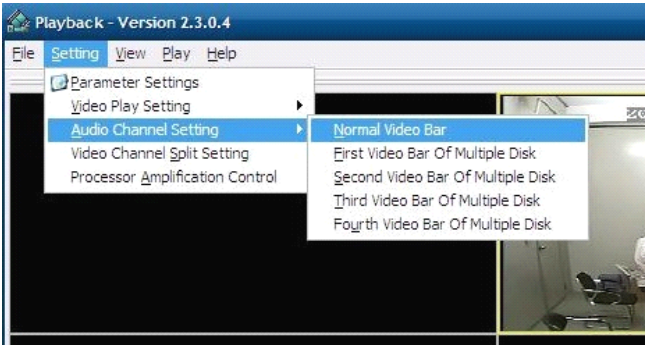
Function Icon	Definition	Function Icon	Definition
①	Recording Schedule		All video
▶ ◀	Play Forward, Play backword		Increase video
❙❙ ■	Pause, STOP	ST	Start Operation
◀◀ ▶▶	Backward /forward frame		File Cut
<< I >>	Slow/Normal/Fast		File Deletion
I▶	Next Hour	avi	AVI Format transmission
	Capture bitmap		OSD
	Decrease video		Volume Control

Note:1.Double click the image to enlarge the image

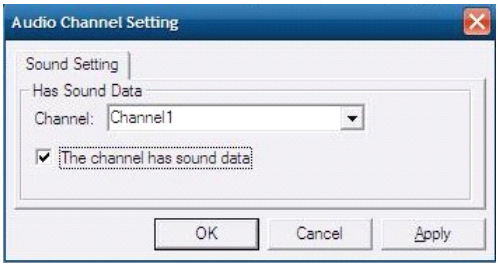
2.When converting the AVI format, you should click ST button.Then click AVI to select the time periods

Audio Setup:

Click 'SETTING'→'AUDIO CHANNEL SETUP'→'Normal video Bar'as shown in the following image:



Select the channel audio to be played,then click 'OK', as shown in the following instructions:



Appendix 1. Q&A

1. How to recover password if forgotten?
   A: Please contact technicians from vender or manufacturer if you have forgotten the password. Please set a safe password easy to remember (don't set simple password like 123456 if you need more safety).
2. No video output signal?
   A: Please confirm that the video output port is connected to the VIDEO OUT, and ensure BNC in DVR interface is in good connection, whether BNC cable is used for too long time and is aging, and ensure N system/P system selection is right.
3. The system can not detect the harddisk?
   A: If the system can not detect the harddisk, please confirm that harddisk data cable is connected well to power cable, harddisk's interface in main board is good, we recommend to re-plug harddisk data cable again; please confirm power adaptor is DC12V 3A (the range is 3A--5A), you can replace the power supply test; Seagate brand harddisk is desirable.
4. What is the affect to equipment by DVR's heat?
   A: DVR will produce certain heat during its running, please put DVR at a safe place with good ventilation, to avoid to damage stability and service life of the system because of high temperature for long-time.

5. How long can a 4-channel or 8-channel DVR record if 1000G harddisk is used?
   A: Please refer to Appendix 2 “harddisk space calculation”.
6. DVR’s remote controller can not work, but the monitor screen is right and the panel buttons can be used properly?
   A: If the controller is pointing to the IR signal on equipment front panel, but the operation is still invalid, please check the batteries in remote controller, if above problems are excluded, please check the health of the remote controller.
7. The “manual recording” and “stop recording” in front panel and shortcut menu can not work?
   A: This function can only work when the mainframe is not under recording status, only timing recording is started and it can work in the non-selected period.
8. Is playback available while recording? Is multi-channel playback available?
   A: Yes, this system can support playback while recording. 4-channel DVR can support 4 channels playback at the same time, 8-channel DVR can only support single channel playback.
9. The records in DVR harddisk can be removed or not?
   A: For safety of the document, you can not delete partial records. If it is necessary, you can format the harddisk.
10. E-mail alerting is not functioning?
    A: Please follow the instruction strictly, check whether there is any letter error or unnecessary space, and please check your mail server’s functionality if SSL ordinary shutdown.
11. Can not find any information record when playback?
    A: please check the harddisk data cable connection, and whether system time is adjusted illegally. Try it several times, and test whether the harddisk is damaged if above still appears.
12. DVR can not control the PTZ after setup?
    A: Please test for the following reasons:
    - ① Front PTZ failure
    - ② PTZ decoder setting, connection and installation is incorrect
    - ③ PTZ incorrect setup in the DVR
    - ④ PTZ protocol decoder and DVR does not match each other
    - ⑤ PTZ decoder and DVR address does not match each other
    - ⑥ When multiple decoders are connected, 120 ohm resistance is needed on the most remote end of PTZ decoder AB line, to eliminate reflex and impedance matching, or PTZ control will not be stable.
13. Motion detection does not work?
    A: Check the motion detection time and motion detection zone and make sure that they are right setup, and check the sensitivity setting.
14. Alarm does not work?
    A: Check the correctness of alarm setting and alarm connection, and make sure that alarm signal input is correct.
15. DVR can only realize non-real-time access to LAN?
    A: When access to LAN, for 8-channel DVR, it can show real-time screen only

when select “LAN” in “network environment” option in login interface; for 4-channel DVR, in addition to select “LAN” in “network environment” option in login interface, please select “ordinary” in “details” option under recording mode.

16. Remote login interface is available, but show “Login failed” when login?
    A: 1) Please check whether the account matches the password you entered, if you forget the password, please enter “User Password” interface of mainframe, and click “Clear IE Password”, and login again. 2) Please check DVR local network and remote access network. Too low network speed will cause failed login. Please try it for several times.
17. After successful remote access, showing “user is configuring…. “?
    A: Please exit all mainframe menus and keep preview status, then, remote setup is available and storable.
18. There is drag mark on screen when real-time monitoring in client end, even short delay?
    A: 1) It’s normal if less than 10 seconds; 2) Confirm the DVR environment network speed is guaranteed.
19. Serious image delay during cell phone monitoring?
    A: 1) Change the “wireless network” into 2.5G; 2) Confirm the DVR environment network speed is guaranteed; 3) Do not put cell phone in a weak signal area; 4) It’s normal if less than 10 seconds.

Appendix 2. harddisk space occupation calculation

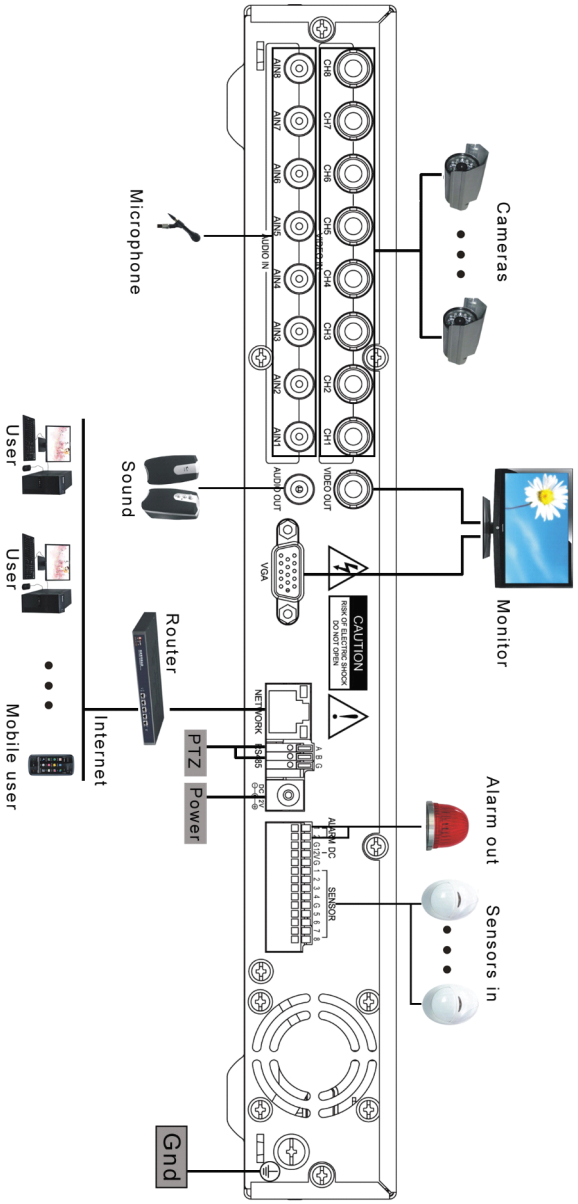
This DVR data harddisk occupation per channel/hour is as following table according to different bit rate and resolution:
(The table is only for reference, the real product shall prevail)
Unit: Megabyte /Channel/Hour

Bit rate / Resolution	BEST	FINE	NORMAL
D1	800	600	300
half-D1	600	450	250
CIF	300	200	100

According to this table, for a 4-channel DVR and 1TB hard disk, if the resolution is CIF and video bit rate is “excellent”, then the mainframe can record the days in following formula 24 hours per day:
N = 1000G * 1000 / (4 * 300 * 24) = 34.7 days
Where, N is the number of days, 1000G * 1000 = 1000000MB is the total capacity of the harddisk, 4 * 300 * 24 = 28800 is the harddisk space occupied by 4 cameras 24 hours per day.

The data from different environment, signal source and bit rate will be different, so the data can only serve for reference.

Appendix 3. System connection diagram



▲ Nothing contained in the manual attached to this product shall be duplicated, disseminated, transcribed or stored in any retrieval system or translated into any other language without written consent.

▲ The product specifications and information contained in this manual are for reference only, and the contents thereof are subject to updating without notice.

▲ We assume no responsible for any damage arising from the improper use of this product. The product names mentioned in this manual are intended for identification only, and may also be registered trademarks or copyrights owned by other companies.

▲ The product color provided in this marketing package may differ from the color shown on the original package. The pictures are for reference only. The technical specifications are subject to change without notice. The accessories available may differ from market to market. Please consult your local dealer.

▲ This manual has been checked carefully but any spelling or technical error is not precluded. Such error or omission will be corrected in the new version. We have the right to modify any and all information contained in this manual without notice.